

**Remarks**

Favorable consideration of this application, in view of the above amendments and in light of the following remarks and discussion, is respectfully requested. Applicants respectfully request entry of this Preliminary Amendment prior to an examination on the merits.

Upon entry of this Preliminary Amendment, Claims 9-29 are pending; original Claims 1-8 having been canceled without prejudice or disclaimer, and new Claims 9-29 having been added.

Applicants respectfully assert that the current application is a continuation of parent application no. 10/030,191, now abandoned. Inasmuch as objections and rejections made in the last Office Action in the parent application may be applicable to the current application, Applicants respectfully submit the following remarks.

In the parent application the disclosure was objected to because headings of different sections of the application were not included. Applicants respectfully assert that the current specification has been amended to include section headings, as appropriate. Specifically, in accordance with the requirements of 37 C.F.R. § 1.125(b), Applicants respectfully submit herewith a marked-up version of the specification showing all the changes to the specification of record, as well as a substitute specification submitted in clean form without markings. Applicants respectfully assert that no new matter has been added.

In the parent application the disclosure was objected to because references to claim numbers were included. Applicants respectfully assert that the current specification has been amended so as to delete references to claim numbers.

In the parent application the disclosure was objected to because a brief description of Figures 12-25 was not included. Applicants respectfully assert that the current specification has been amended to include such a brief description of these figures, which is supported by

the originally filed figures, as well as the description of Figures 1-11, such that no new matter has been added.

In the parent application the disclosure was objected to because a detailed description of Figures 12-25 was not included. Applicants respectfully assert that the current specification has been amended to include such a detailed description, which is supported by the originally filed figures, as well as the originally filed description of Figures 1-11, such that no new matter has been added.

In the parent application Claims 9-11, 14, and 15 were provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of Claims 1-3, 7, and 8 of co-pending application no. 10/030,192. Claims 12 and 13 were provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as Claim 4 of co-pending application no. 10/030,192. Claims 16 and 17 were provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of Claim 9 of co-pending application no. 10/030,192. Claims 18-26 were provisionally rejected under 35 U.S.C. § 101 as claiming the same invention as that of Claim 14 of co-pending application no. 10/030,192. Applicants respectfully assert that the rejections are not applicable as the current application does not include the same claims as those of the parent application.

As stated above, new Claims 9-29 have been added. Applicants respectfully assert that support for the changes to the claims is self-evident from the originally filed disclosure, including the original figures and the original claims, and that therefore no new matter has been added.<sup>1</sup>

In the parent application Claims 9, 14-18, and 23-26 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 2,763,344 to Starkey. Claims 10-13 and 19-

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<sup>1</sup> Applicants respectfully assert that the new Claims 9-29 are supported by original Claims 1-8, originally filed Figures 1-11, and the corresponding portion of Applicants' originally filed specification describing these figures, as well as originally filed Figures 12-25.

22 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Starkey in view of U.S. Patent No. 6,094,492 to Boesen. Inasmuch as the references may be applied against new Claims 9-29, Applicants respectfully submit the following remarks.

The present invention is directed to earpieces for behind-the-ear parts of hearing acoustics devices. New independent Claims 9 and 12 each recite a shank adapted to follow an outer edge of a patient's cavum conchae. An angled traverse segment is connected with the shank and is configured to be disposed above the patient's antitragus and to extend in a direction of the patient's porus acusticus externus. A broadened portion is disposed on the angled traverse segment and defines a bore configured to hold a signal conductor in an upper half of the patient's auditory canal and to prevent the signal conductor from covering a portion of a lower half of the patient's auditory canal. New independent Claim 17 recites a body including a first portion adapted to fit into a patient's cyma conchae, and a second portion extending around an edge of the patient's inner ear. A protrusion extends from the body, the protrusion defining a bore configured to hold a signal conductor in an upper half of the patient's auditory canal and to prevent the signal conductor from covering a portion of a lower half of the patient's auditory canal.

Starkey is directed to an ear mold for hearing aids. As shown in the figures of Starkey, the ear mold A has an auditory canal plug member 7 adapted to be received in and completely fill the outer portion of the auditory canal of the wearer.<sup>2</sup> (Underlining added).

Thus, Applicants respectfully assert that Starkey does not teach or suggest the claimed features of a broadened portion or a protrusion configured to hold a signal conductor in an upper half of a patient's auditory canal and to prevent the signal conductor from covering a portion of a lower half of the patient's auditory canal, as recited in independent Claims 9, 12, and 17.

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<sup>2</sup> Column 2, lines 12-14.

Specifically, independent Claims 9 and 12 each recite “a broadened portion disposed on the angled traverse segment defining a bore configured to hold a signal conductor in an upper half of the patient’s auditory canal and to prevent the signal conductor from covering a portion of a lower half of the patient’s auditory canal,” and independent Claim 17 recites “a protrusion extending from the body, the protrusion defining a bore configured to hold a signal conductor in an upper half of the patient’s auditory canal and to prevent the signal conductor from covering a portion of a lower half of the patient’s auditory canal.”

Applicants respectfully assert that the device of Starkey suffers from disadvantages including causation of an occlusion effect, which are not present in the earpiece recited in the claims. An underlying cause of the occlusion effect is vibration of the flesh and the jaw during speaking by the user of the device. In particular, closed vowel sounds, such as “oo” and “ee,” produce sound pressure levels of between about 135 to about 140 db at the back of the mouth, which cause the flesh and the jaw to vibrate. The vibration is transmitted to the wall of the ear canal, where the cartilaginous portion of the wall is free to vibrate. When the ear canal is open, such as with the earpiece recited in the claims, the sounds do not interfere with the hearing of the user. Conversely, when the ear canal is closed by the device of Starkey a sound pressure increase of between about 20 to about 30 db occurs at low frequencies during the speaking of the closed vowel sounds. However, an increase in sound pressure does not occur for open vowels sounds, such as “ah,” because the sound pressure in the back of the mouth with the jaw open is only about 115 db. Thus, the user of the device of Starkey alternately hears annoying increases in the low pressure frequency levels of closed vowel sounds and no increase at all in the low pressure frequency levels of open vowel sounds, leading to complaints that there is an echo in the voice of the user of the device, or

that the user's voice sounds hollow.<sup>3</sup> Conversely, the earpiece recited in the claims has a minimum possible effect on the auditory canal, and a remaining hearing capacity in a patient is impaired as little as possible in terms of its natural effects.<sup>4</sup>

Thus, Applicants respectfully assert that Starkey, whether taken alone in combination with another reference such as Boesen, does not teach or suggest the claimed features recited in independent Claims 9, 12, and 17. Therefore, Applicants respectfully request the allowance of independent Claims 9, 12, and 17.

Applicants respectfully assert that dependent Claims 10, 11, 13-16, and 18-29 are allowable for the same reasons as the independent claims from which they depend, as well as for their own features. Thus, Applicants respectfully request the allowance of dependent Claims 10, 11, 13-16, and 18-29.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 9-29 is earnestly solicited.

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<sup>3</sup> Killion, Mead C., Ethymotic Research, Elk Grove Village, IL/USA – 46. Internationaler Hörgeräte-Akustiker-Kongress 2001.

<sup>4</sup> Please see, in part, page 1, lines 9-11, of the substitute specification.

Application No. 10/790,126  
Preliminary Amendment

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below listed telephone number.

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